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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,580	03/17/2004	Jerome C. Bressi	SYR-HDAC-5005-C2	6189

32793 7590 09/29/2006

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EXAMINER

CHANG, CELIA C

ART UNIT	PAPER NUMBER
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1625

DATE MAILED: 09/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/803,580	Applicant(s) BRESSI ET AL.	
	Examiner Celia Chang	Art Unit 1625	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-144 is/are pending in the application.
- 4a) Of the above claim(s) 1-108 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 109-144 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Applicant's election with traverse of Group I, claims 109-144 in the reply filed on July 26, 2006 is acknowledged. The traversal is on the ground that a newly proposed grouping of the different inventions would not impose burden to the search. This is not found persuasive because applicants' attention is drawn that the basis of restriction was 35 U.S.C. 121 and 372 because the groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. Wherein Annex of Markush practice, **Part 1(f)v**, indicates that

“When dealing with alternatives, if it can be shown that at least *one* Markush alternative is not novel over the prior art, the question of unity of invention shall be reconsidered by the examiner”

The independence and distinctness was found based on prior art of CA 127:17674 which evidenced that the groups lack unity of invention. The search is therefore not coextensive. The proposal by applicants recombines structural diversified compounds into subgroups. Not only the search for such diversified groups is extremely burdensome, upon applicants' suggestion, a preliminary searching evidenced that grouping of benzimidazolylpiperidine and purinylpiperidine further was evidenced that the different “core” having different utility (see CA 140:12453). It would be extreme burden to search such diversified core structural with diverse utility.

The requirement is still deemed proper and is therefore made FINAL.

Claims 109-144, with the species of compound 30 is prosecuted. Claims 1-108 being drawn to the non-elected inventions are withdrawn from consideration per 37 CFR 1.142(b).

2. Claims 109, 111, 112, 117, 119, 121, 122-124, 129, 131, 133-136, 141 and 143 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims employed the language “comprising” in defining different Markush members of the compounds or moieties. It is improper to use the term “comprising” in reciting members of Markush groups. See MPEP 2173.05(h). The term “consisting of” is recommended.

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3. Claim 109, 112, 121, 124, 133 and 136 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The scope of "M" cannot be ascertained. Please note that "M" is part of a compound which is structural for the compounds. There is no nexus of the functional limitation i.e. "capable of complexing with a deacetylase catalytic site" as claimed. It is unclear what constitutes such functional moiety. It is recommended that structural delineation for the moiety be clearly identified.

It is unclear what does the scope of claims 112 or 136 be when "R14 comprises a member selected from the group consisting of hydrogen and *a substituent that is convertible in vivo to hydrogen*". Please note that groups which are convertible in vivo to hydrogen can include amine by deamination, carboxylic acid by decarboxylation etc. Therefore, claims 112 or 136 actually broadened the scope of the Markush members of R14 in the base claims. Since 112 and 136 are dependent claims, it is recommended that the more limited members be explicitly pointed out.

Claim 133 is indefinite because no definition of E or Z was defined and Z has been defined always to be part of a ZQ group. Further it is unclear what does "L is E, Z or *mixtures of E/Z* -CH<sub>2</sub>=CH<sub>2</sub>-" Please note that L is a structure of the compounds thus cannot be mixture. Further CH<sub>2</sub>CH<sub>2</sub> can only be bonded with single bond. The structure delineated in the claims "-CH<sub>2</sub>=CH<sub>2</sub>-" each carbon has five valence which is inconsistent with the scientific base of chemistry.

4. Claims 109 and 121 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The scope of "L is a substituent providing between 2-10 atoms" encompassed any atom of the periodic table. No starting material for such compounds wherein L is 2-10 any atom other than "C" can be found. Especially, such material such as peroxides, disulfides etc. are

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extremely unstable to have pharmaceutical utility. Absent of starting material, the specification offered mere language rather than enablement. Ex Parte Moersch 104 USPQ 122.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

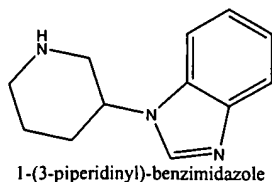
Claims 109-112, 115, 121-124 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vourloumis et al. Tetrahedron Lett. in view of CA139:133505.

Determination of the scope and content of the prior art (MPEP §2141.01)

Vourloumis et al. disclosed biologically active combinatory compounds of the instant claims wherein species of RNA binding compounds similar to the benzimidazole-piperidine i.e. the elected compounds were synthesized see wherein the M moiety is nitro, fig. 1, p.2807 and formula 8, p.2808 which has been delineated as RN569355-84-6 in CA.

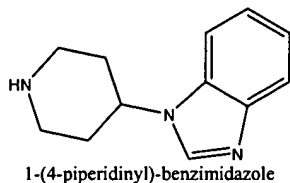
Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The difference between Vourloumis et al. species and the instant claims is that instead of benzimidazolyl ring at the 3-position as the instant claims, i.e.



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Vourloumis et al. disclosed species wherein the benzimidazolyl ring is at the 4-position of the piperidiny ring i.e.



Vourloumis et al. suggested that variation of the exemplified compounds is expected to have similar biological activity i.e benzimidazole *scaffold* is the basis for activity.

*Finding of prima facie obviousness—rational and motivation (MPEPS2142-2143)*

One having ordinary skill in the art in possession of the above reference is deemed to be aware of that 3-piperidiny benzimidazoles of the instant claims which are position isomers of the exemplified compounds of Vourloumis et al. would have similar biological activity since variations are expected to have such activity as suggested by Vourloumis. Further, position isomerism has long been guided by the courts to be prima facie structural obvious. In re Mehta 146 USPQ 284, In re Dillion 16 USPQ2d 1897.

6. Claims 109-144 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 109-144 of copending Application No. 10/803,575. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are fully embraced by the copending scope i.e. a subgenus of the genus of '575.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned

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with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

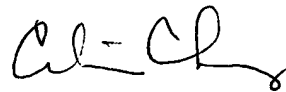
Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Celia Chang whose telephone number is 571-272-0679. The examiner can normally be reached on Monday through Thursday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas McKenzie, Ph. D., can be reached on 571-272-0670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

OACS/Chang  
Sept. 20, 2006

  
Celia Chang  
Primary Examiner  
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